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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,141	12/07/2004	Masao Nagano	59406.00026	6837

32294 7590 09/26/2006

SQUIRE, SANDERS & DEMPSEY L.L.P.  
14TH FLOOR  
8000 TOWERS CRESCENT  
TYSONS CORNER, VA 22182

EXAMINER
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CAZAN, LIVIUS RADU

ART UNIT	PAPER NUMBER
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3729

DATE MAILED: 09/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/517,141

Applicant(s)

NAGANO ET AL.

Examiner

Livius R. Cazan

Art Unit

3729

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3 and 5-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-9 is/are allowed.
- 6) ☒ Claim(s) 1 and 3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/7/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

2. Figures 1-3, 4a, 4b, 5a, 5b, and 15b should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

3. Claims, 3 and 6-9 are objected to for objected to because of the following informalities: "A slotless" in claim 3 should be replaced with --The slotless--. "A method of making" should be replaced with --The method of making-- in each of claims 6-9. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Ozawa (EP1073179 to Ozawa et al.).

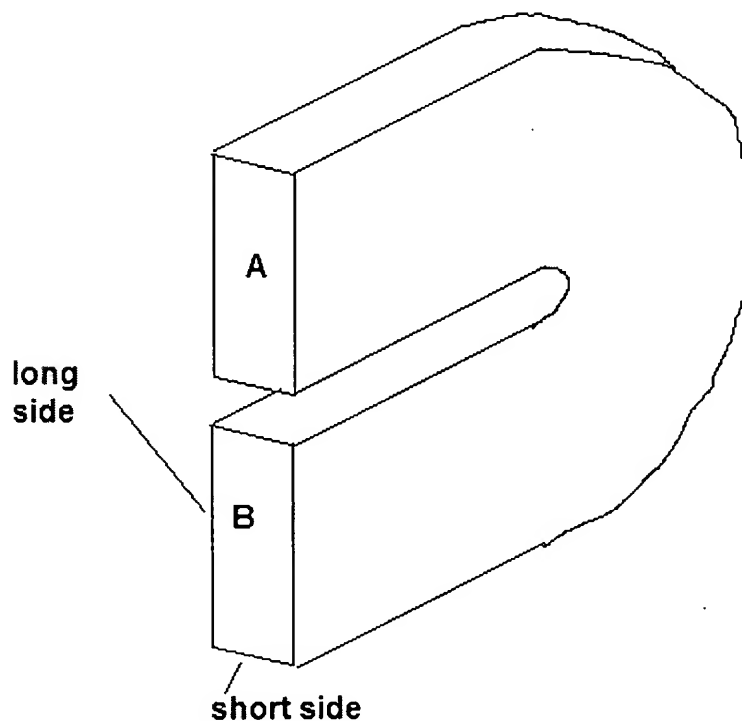
Ozawa discloses a slotless permanent magnet rotary electric machinery (see Fig. 1), comprising:

- a substantially cylindrical rotor (7, Figs. 1 and 2) incorporated with a permanent magnet (1, Fig. 2),
- a stator iron core (1, Fig. 1) surrounding the rotor; and
- a coil (15, Figs. 1 and 2) provided between the rotor and stator core in a spaced relationship with respect to the rotor, characterized by that:
  - the coil comprises a plurality of turns which are shifted from one turn to another along the circumferential direction in a mutually overlapping manner (see Fig. 3); and
  - the coil turns are formed by a conductor (27, Fig. 6) having an elongated cross section, a long axis (side having 6 conductors 25 in Fig. 6) of the cross section extending in a radial direction (see Figs. 3-9; see note below),
  - wherein the conductor is provided with a rectangular cross section (see Fig. 6) having a long side (6 conductors 25 in Fig. 6) and short side (3 conductors 25 in Fig. 6), and the long side extends in a radial direction (see note below; see Figs. 3-9) and wherein the rectangular cross section of the conductor is rounded at the four

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corners thereof; individual conductors 25 are rounded (col. 9, para. [0060]), and therefore the composite conductor 27 has rounded corners as well.

Note: To easily visualize this, compare Figs. 3, 5, and 6. From Fig. 3, it is clear that the U-shaped end turns 37 are such that when the coil is rolled into a cylinder, one leg of the U will be farther out radially than the second leg of the U. From figs 5 and 6 it is clear that each leg of the U (when viewed as the letter U) is wider than the thickness of the letter itself, i.e. as in the figure below. It is clear then that conductor A is at a radially outward position of the cylindrical coil, and B is at a position radially inward.



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Regarding claim 3, the conductor can consist of Litz wire conductor (col. 8, para. [0053]).

***Allowable Subject Matter***

6. Claims 5-9 are allowed.

7. The following is a statement of reasons for the indication of allowable subject matter: The prior art does not teach, in combination with all other claim limitations, the method of forming the winding by wrapping a first wire having a circular cross section of substantially the same diameter as the length of the short side of the flat conductor, and a second wire of circular cross section of larger diameter than the first wire around a flat bar in a spiral fashion so that the wires alternate along the length of the bar, and then removing the first wire and wrapping the flat conductor within the gaps left by the first wire, and then removing the second wire. The closest prior art is FR2411788. However, this document only teaches employing a wire attached to a weight and serving as a separator while a thinner wire is wrapper around a circular rotating bar, but does not teach employing a second wire wrapped in a helical manner along the length of a flat bar such that it alternates with the thinner wire along the length of the bar, and it is deemed unobvious to do so based on this reference. Further, even if this combination could be made, it still would not have been obvious to employ a thin wire of the same thickness as the short side of the flat conductor, and to wrap the flat wire in the space created by removing the thin wire.

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**Conclusion**

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Livius R. Cazan whose telephone number is (571) 272-8032. The examiner can normally be reached on 7:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on (571)272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LRC 09/18/2006



**A. DEXTER TUGBANG**  
**PRIMARY EXAMINER**